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This report contains an overview which traces the technological revolution of the last 50 years and the impact it has had on blue collar workers, especially deaf blue collar workers. The prevocational program is discussed and a vocational program that fits most facilities in schools for the deaf is presented. Desirable vocational teacher qualifications are reviewed, and sources where vocational teachers may be recruited are explored. Suggestions are made regarding areas that may provide increased employment opportunities for the deaf worker of the future. Finally, a list of government programs in the area of and related to vocational education is provided. Basically, these are opportunities which the local school system might explore for purposes of acquiring support. Related documents are VT 005 013 and VT 005 015. (CH)

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TRAINING MANUAL

WORKSHOP FOR IMPROVING
INSTRUCTION OF THE DEAF
1967
BALL STATE UNIVERSITY
MUNCIE, INDIANA
DEPARTMENT OF HEALTH, EDUCATION
AND WELFARE
OFFICE OF EDUCATION
CAPTIONED FILMS FOR THE DEAF

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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TRENDS

A Report of the

WORKSHOP FOR IMPROVING INSTRUCTION OF THE DEAF

BALL STATE UNIVERSITY
Muncie, Indiana

July 10—August 11, 1967

FOREWORD

Like its predecessors the fifth annual Workshop for Improving Instruction of the Deaf was held at Ball State University, Muncie, Indiana, and was funded by the United States Office of Education.

Twenty qualified instructors of the deaf, two resource personnel and an interpreter participated under the direction of the project director, Dr. Donald G. Ferguson, Associate Professor of Education, Ball State University, Muncie, Indiana, and the project coordinator, Dr. Doin Hicks, Principal, Pilot School for the Deaf, Dallas, Texas, during a five-week period July 10—August 11, 1967.

Financed by the Captioned Films for the Deaf, a branch of the United States Office of Education, the workshop had as its primary purpose the evaluation and annotation of existing media in the area of vocational education. In addition, study was made and brief reports were written in the areas of pre-vocational education, vocational guidance and trends in vocational education.

PERSONNEL

Mr. Elwood Bland	Hampton, Virginia
Mr. Raymond Butler	Morganton, North Carolina
Mrs. Virginia Diot	Vancouver, Washington
Miss Margaret Doyle	Philadelphia, Pennsylvania
Mr. Jack Gannon	Omaha, Nebraska
Mrs. Nettie Garber	Berkeley, California
Mr. Camell Gardner	Detroit, Michigan
Mr. Alfred Hoffmeister	West Hartford, Connecticut
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Mr. Earle Jones	Seattle, Washington
Miss Joanne Meek	Riverside, California
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Assistant Resource Director	
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Mr. Bobby Dudelston	Muncie, Indiana
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Miss Violet Schonhardt	Indianapolis, Indiana
Secretaries	
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Interpretor	
Mr. Charles Overholser	Portland, Maine
Project Coordinator	
Dr. Doin Hicks	Dallas, Texas
Project Director	
Dr. Donald Ferguson	Muncie, Indiana

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INTRODUCTION

Educators of the deaf for some time have been concerned with improving vocational training for the deaf. Increasing vocational facilities for non-handicapped people and automation have made this problem more pressing. Foreseeable trends will further limit the employment opportunities for the deaf unless greater vocational education opportunities are provided.

This report contains an overview which traces the technological revolution of the last fifty years and the impact it has had on blue-collar workers, especially deaf blue-collar workers. The prevocational program is discussed, and a vocational program that fits most facilities in schools for the deaf is presented. Desirable vocational teacher qualifications are reviewed, and sources where vocational teachers may be recruited are explored.

Suggestions are made regarding areas that may provide increased employment opportunities for the deaf worker of the future. Finally, a list of government programs in the area of and related to vocational education is provided. These, basically, are opportunities which the local school system might explore for purposes of acquiring support.

CURRENT AND FUTURE TRENDS AND NEEDS IN VOCATIONAL EDUCATION FOR THE DEAF

OVERVIEW

The rapid technological development and changes in the world today have created an aura of amazement and complexity. During the past two decades, beginning particularly after World War II, technological advancement has had a tremendous impact on the nation's economy and social structure. Society's material needs demanded an immediate remedy, and this led to the expansion of industry and the addition of many new industries and products. In a span of less than a quarter-century our mode of living has been so transformed that it is practically unrecognizable when compared to that of the prior era. Considering present indications, predictions for future expansion are not as incredible as they may seem at first. Conjecture concerning future possibilities holds the mind in constant suspense.

In the past half century, our methods of transportation have progressed from horse and buggy to space ships traveling at 18,000 miles per hour. Distance has diminished to such an extent that traveling to most any place on the earth can be accomplished in less than twenty-four hours. Trips to the moon are contemplated within the next ten years and probable visits to other planets soon thereafter. From the early communication wonders of telegraph and telephone have emerged radio and television. Events that occur thousands of miles away are now instantly relayed by Telestar into our living rooms. Electronic controls have taken over numerous hand operations in industry; nuclear energy powers ships and may soon heat our homes. Medical science has eliminated many common diseases of the past and is making rapid advancement toward the eradication of such challenges to the medical profession as cancer and heart disease.

The impact of accelerated technological development is not only evident in our way of living but also in the manner of our making a living. The emergence of new industries has produced a profound effect upon job opportunities not only for persons with normal hearing, but more so for those with auditory handicaps. Predominately, the detrimental effects of these changes in our way of making a living are most emphatically felt by those among the lower strata of employment levels. The more industry propels itself forward, the greater the need for workers with higher skills and knowledge.

Employment surveys have repeatedly shown that the majority of deaf workers fall into the semi-skilled and unskilled cate-

gories. Since acceleration and automation are constantly eliminating the number of workers in unskilled occupations, the deaf unskilled worker's future appears to be somewhat in jeopardy. For the first time in our employment history the number of white-collar workers has surpassed the number of blue-collar workers. The United States Department of Labor has calculated that between 1960 and 1975 white-collar employment will increase by 46 per cent, whereas the increase of blue-collar workers may approximate only 21 per cent. The professional and technical outlook indicates an increase of about 65 per cent more workers. Only a small minority of deaf workers have been able to enter these levels of employment.

A contributing factor which has altered the traditional occupational pattern is the tremendous increase in our population during the past two decades. In the first half of the twentieth century the population of the United States increased by about 75 million people. Between 1950 and 1960 there has been a conspicuous increase of 30 million; and by the end of the present decade a like number will be added to our population. This great population growth inevitably has resulted in a large number of workers joining our already crowded labor market. As the labor force increases, competition for jobs sharpens proportionately. Workers entering into this stiff competition are compelled to acquire more knowledge and achieve higher skills. The deaf worker also encounters this competition. He must be provided with more and better general education and adequate vocational training to prevent his isolation from the world of work.

This burgeoning population will eventually give rise to more consumers, creating the need for more products and services. More jobs will eventuate, but at the same time 26 million more young men and women will enter the labor market before 1970. The young deaf man and woman leaving the schools for the deaf after graduation must contend with this group and buffet against the competition they will present.

Another important factor having impact upon the entire labor market is automation. The fear of total elimination of unskilled labor by this medium is unfounded. However, automation is continuously reducing the work force while similarly increasing productivity and profits with resultant expansion. Acceleration and development have created a demand for new methods, new machines, and new plants. Industry has compared the expanse of developing present structures with the practice of building entirely new plants and frequently has found it economically more feasible to build new structures. New plants involve, more often than not, new sites and locations. Relocation tends to favor the highly skilled worker or technician, thus increasing the problems of the worker. Industry is wont to transfer, at company expense, top-flight personnel and leave others to fend

for themselves. Resultant labor must seek new jobs or retrain for other occupations. Here the deaf worker may find himself at a disadvantage. Facilities may not be adequate or feasible for his retraining, and he becomes victimized in the competitive world of work.

The gradual decline of farm workers due to the mechanization of agriculture is adding more workers in search of jobs. There has been a constant drift of labor from rural to urban areas, but this migration has been dramatically accelerated during the last decade. Urban industries with their shorter work day and week has proved to be more attractive to the worker on the farm. By 1975 there will be over a million and a half fewer farm workers, and the decline will continue.

Adding to this growing labor market is the steady influx of women workers. The pressing economic needs of the household have compelled many married women to seek employment. Estimates are that by 1970 three million more housewives will have entered industry or service enterprises. Women are becoming more versatile in their choice of occupations and are entering many professional and technical fields providing more competition.

Industrial efficiency and automation eventually will prevent absorption of this great increase of workers into the labor market. Industry is concerned with the production of products. These products demand service, and it is in this area where employment opportunities will increase. More than twice as many service workers will be needed; and, as new products require newer service, more occupations will have their impact upon the field of employment for deaf workers.

Professional and technical occupations are expected to provide the greatest increase in the labor population. The need for engineers, scientists, social and health workers, teachers and research workers has been constantly growing. Expansion in research both in industry and government is providing more occupational opportunities.

Electronic data processing has made a significant impact upon the business world. Computerized systems and machine processing have revolutionized the modern-day office. Women have reaped considerable benefits from the electronic machines which have provided a wide field of occupations.

Our affluent economy has invariably brought a demand for new homes, apartment buildings, schools, hospitals, roads, and industrial and business offices. Government and state redevelopment in the construction industry has offered a large number of occupations.

In summary technological changes have eliminated many existing occupations, modified the importance of others, and created new fields in our labor force. These developments and

changes have demanded the acquisition of new skills. Job content and the need for manpower has adjusted continually to these changes. Attempts to meet these demands have resulted in a thorough scrutiny of academic and vocational education, both of which are constantly being re-examined and strengthened. However, vocational education for the deaf has been geared to provide a terminal program for its students. These programs have been built around the physical equipment existing in the schools with little variation in the trades and crafts that have been offered for the past half century. Until the past decade the expanse of adding new equipment and new ideas of teaching has been somewhat prohibitive. The schools have always endeavored to provide the basic training and lay the groundwork in specific trade areas, but recent and anticipated developments will demand a more sophisticated program to meet the competition that the labor market requires.

Vocational education for the deaf must be broad in scope, emphasizing not only occupational efficiency but general knowledge and understanding upon which preparation for future specialization and training may be based. The concepts should not be narrow in scope nor oriented to training for a specific occupational career. Rather the program should be geared toward occupational adjustment and subsequent preparation for continuing training for adult education throughout life. This type of knowledge and these basic skills should evolve around a set of attitudes realistically geared toward occupational adjustment.

Our complex technological society is demanding the skills of a better educated work force. A recent survey disclosed that 18 per cent of hearing high school graduates were unemployed. Graduates from schools for the deaf whose achievement range falls within the sixth to eighth grade level will find themselves competing with this surplus in the labor market. The challenge to meet this occupational competition lies in extensive preparation in academic and vocational instruction in the school years. This preparation must commence in the early years of school life. Prevocational programs will aid the student in orienting himself through the school years. The development of comprehensive exploratory programs aimed at engendering student interests, developing proper attitudes and discovering aptitudes, will eventually lead to occupational adjustment. Academic preparation correlated with the prevocational program will enrich the student's knowledge of himself and the world around him.

Manipulative skills do not constitute the terminal needs of industry. Intelligent development of proper attitudes, habits, cooperation, and dependability are as requisite as the acquisition of manual skills. Training should be achieved by contact with people who have healthy attitudes and actions, which in

turn aid the student to modify his ideas as maturity and experience are gained. With this background the transition to vocational placement can be accomplished more smoothly.

Vocational preparation must essentially be geared to a continuity of occupational adjustment. During his life the average worker is said to change his occupation or employment a minimum of five times. Accordingly, the necessity of deviating from training for a specific trade or craft to establish a broad occupational background is obvious. Skills and disciplines acquired for specific occupations may be obsolete or altered by the time a student enters industry or shortly after he is employed.

Teaching all the manipulative skills to keep abreast of the technological changes in industry is obviously impossible in the vocational school for the deaf. Limitations in the physical plant, finances, and personnel prevent such ideal aims and desires. A more realistic approach can, however, be achieved. The school should organize a program for training which provides familiarity in the use of tools and machinery in general and in the fundamental principles of shop practices which portend occupational adjustment. While the school should aim toward a sophisticated program, it is axiomatic that its purpose is not to produce journeymen for a craft or trade. Again, classifications of occupations in industry neither fall into watertight compartments nor remain static.

The success of the training program in prevocational and vocational instruction is exemplified by having the student "discover himself." This is accomplished, in the main, by guiding the student in the proper direction after he has learned the components that make up his own image. The specialized service of guidance and counseling, conducted by well trained staff members, is conducive to successful occupational adjustment. Vocational counseling and guidance is an integral part of the education of the deaf and should be available during the student's entire school life. The immature student needs help in discovering through diagnosis his aptitudes, interests, and other characteristics so that he may become aware of his own capabilities and develop them to the utmost. Adequate counseling and guidance should primarily lead the student through proper training and instruction so that he may find a niche in the world of work. To live and work with others, he must be guided to develop a positive attitude in his thinking and with regard to society in general. Early in his counseling the deaf student must be deterred from nurturing the idea that the world owes him a living.

No intention is made here to outline the role of the counselor or the guidance procedures aimed at assisting the student toward adequate occupational adjustment. Herein follows suggested guidelines in developing a program in prevocational and vocational education in schools for the deaf.

PREVOCATIONAL REQUIREMENTS

The prevocational program should be closely integrated with the academic program. Although the emphasis of the academic program was recognized by the Workshop participants, attention was mainly toward the prevocational and vocational programs. A high level of academic achievement and communication is an integral part of any program leading toward adequate training.

The prevocational program should begin when the students are approximately age 12 and continue through age 15. Until the age of 14 the program should consist of classes such as woodworking, metalworking, plastics, and electricity which might meet only two hours or so a week. At ages 14 and 15 the class should meet one hour per day, five days a week. The prevocational program should offer the student opportunity to gain experience in a number of areas in vocational training. A partial list of areas includes:

- hand woodworking
- machine woodworking
- plastics
- bench metalworking
- sheet metalworking
- basic machine shop
- painting and decorating
- jewelry making
- leathercraft
- art metalworking
- electricity
- home furnishing
- food and money management
- basic clothing
- child care
- household mechanics
- typewriting
- general business

The prevocational program should be a requirement for all students, both boys and girls. The program emphasis is on increasing knowledge in language and mathematics, discovering aptitudes, and developing skills, proper attitudes, and habits necessary for successful occupational adjustment. It will also assist the teacher and student in evaluating the student's aptitudes and abilities in the various areas. This knowledge and experience will provide the student with information which can be used in making an occupational choice leading to vocational preparation.

A course such as "Introduction to Vocations" should be included at this level. This course, along with several others, should be coeducational. The course should include information in such areas as professional, technical, and managerial occupations; office, clerical, and service occupations; manual and mechanical occupations.

The teacher should use the most current material available and appropriate methods when presenting this information. Related materials which can be of assistance are as follows:

booklets	periodicals and reports
posters, pictures and diagrams	16mm films
	8mm films—single concept
filmstrips	slides
transparencies	realia

The field trip is *highly* recommended as a vehicle for providing occupational information and motivation. Talks by deaf adults to the classes concerning their experiences while in school, searching and securing a job, and the nature of their present working conditions will offer the student practical information since deaf young people identify closely with such persons.

The success of the prevocational program is measured in terms of how well the students are prepared to choose their next step in vocational preparation. All avenues of instruction and related materials should be employed to give the student a broad view of the variety of occupations.

ATTITUDES, THE KEY TO SUCCESS

One can read in many papers and publications about the necessity of our students having desirable attitudes before entering the world of work. The tendency is to stress the acquisition of skills and not give much thought to attitudes. Yet, many personnel managers and employers have said that as much as 75 to 85 per cent of the emphasis in hiring workers is on such personal qualifications as appearance, character, intelligence, dependability, and attitude. Others have said that experience in a particular job cannot substitute for honesty, the ability to work with others, resourcefulness, and initiative. It is a demonstrated fact that more jobs are lost through poor attitude and personal relationships than for any other reason, including lack of skill or intelligence.

It would seem, therefore, that the problem facing us is how to improve our teaching of attitudes to deaf students and how to change undesirable attitudes. Participants in the Workshop evaluated media which were thought to be related to the area of attitudes. However, not many were recommended for captioning. Most of the material was rejected because it was outdated and inappropriate, even though the titles indicated otherwise. It is agreed that perhaps much in the way of attitude development has been more a product of person to person relationships between the teacher and the student. This is good and should be

strengthened and improved. Yet, there is a need for visual materials which will reinforce learning acquired through informal teacher-student relationships. General suggestions follow, which hopefully will assist the innovative teacher improve instruction in this area or at the very least will stimulate thinking along these lines.

Definition: General Attitudes

One cannot say that there are classroom attitudes, dormitory attitudes, shop attitudes, or physical education attitudes. An attitude can be described as the way one thinks, acts, or feels toward a given situation. The whole general attitude of a student has a bearing on all aspects of his school life. No single area of the school is responsible for the development of attitudes. It is an all-encompassing thing. All teachers and school personnel have a finger in the pie, so to speak. Luther Burbank once said:

> Influence is given you as the most potent gift of all; you can strengthen it by thought, study, and the right heart or you can dissipate and misuse it . . . your influence is your birthright, your epitaph. It can make you ephemeral and inconsequential—or it can sing through the years.

General Development of Attitudes

As has been stated previously, no one group in a school for the deaf is responsible for the development of desirable attitudes in students. From the very first day that a student enters a school, at the age of four or five, the development of attitudes, either bad or good, has begun and will continue until after he has left the school and well into life after school. How the child is received on the very first day of school can have a bearing on his subsequent attitudes. We cannot sit back and wait until the child has entered the primary department, or the intermediate department, or when he has entered a vocational shop. By that time it may be too late or we may have a major job of attitude retraining.

There must be a high spirit of cooperation among all facets of the school from the dormitory, the classroom, the vocational department, the maintenance department, and all other parts of the school. Attitudes are said to be taught or acquired by precept and example. If this be the case, then all personnel of the school have a responsibility to help develop desirable attitudes in the students.

There must be more awareness among the total staff of the school of the importance of proper attitude development. This awareness must come from the school administrators, and radiate throughout all school personnel and the student body. A

child who is surrounded by a sea of friendliness, wholesome living, and clean thinking, is not likely to be engulfed by indifference, apathy, or hostility.

Specific Attitudes

As a result of discussion with participants in the Ball State Workshop, and through previewing various visual materials, a partial list of attitudes, which are desirable in our students, was compiled. These attitudes are as follow:

interest	reliability
enthusiasm	responsibility
loyalty	dependability
creativity	courtesy
consideration	helpfulness
cooperation	independence
respect	punctuality
friendliness	accuracy
honesty	willingness to learn
inquisitiveness	

Is it possible to designate attitudes that are the sole responsibility of any one department of the total school program? Obviously not! The development of acceptable attitudes is the responsibility of every person involved in the total school effort. If loyalty is not stressed in the dormitories by the counseling staff, will the students have a sense of loyalty in the classroom? If honesty is treated lightly in the print shop, should we be surprised when our students are not honest elsewhere? If our students are allowed to be discourteous in the classroom, would we have courteous students at a school party? Of course not.

Relation to Vocational Department

The vocational department frequently gets students who are lacking in many desirable attitudes. It becomes the responsibility of the vocational teachers to do something about the situation. This can be accomplished in many ways. By way of illustration, a few of the attitudes listed previously can be related to the work of the vocational teacher to show how he or she can be helpful in developing desirable attitudes.

Interest. By ascertaining the learning ability of the students, the vocational teacher can plan tasks for the students which progress from the very simple task to the more difficult. In this manner the student is not overly frustrated and does not lose interest in his work. By giving the students responsibilities in the shop or lab that are equal to his abilities, interest is fostered in other areas.

Enthusiasm. An enthusiastic teacher can create enthusiasm in the student. By encouraging students to do more on their own, with a minimum of help from the teacher, the students can become more enthusiastic about their work.

Respect. The careful development of good work habits in the shop leads to respect for property and people. Respect for equipment and tools is constantly drilled into the students and for obvious reasons; tools cannot be replaced everyday. Working in a well-supervised job situation with others in due time leads to respect for fellow workers.

Helpfulness. Teamwork is required to complete many jobs in school shops. Working together on a job leads to the students being helpful to each other. Many jobs in the working world require teamwork. What better place to foster this attitude than in a school shop?

Independence. After a certain period of learning, the shop teacher assigns jobs to the students to do on their own. These jobs again progress from the very simple to the more difficult. In due time the student learns to be independent and to proceed on the job by himself. Without this attitude of independence, it is doubtful that school shops could accomplish as much as they do.

Punctuality. There are certain times for the students to come into the shop and certain times to leave. By operating the school lab along the lines of a commercial shop, students learn the need to be punctual. The shop teacher knows that if students are allowed to be tardy frequently and leave before the end of the class period, an undesirable attitude is being fostered which will be carried over into the working world.

The foregoing statements illustrate how a few attitudes have direct relation to the vocational area. The vocational shop can make a solid contribution to the development of *all* desirable attitudes.

End Products of a Vocational Department

It has been said by some authorities that a vocational shop in a school for the deaf should not be so concerned with the development of specific skills, but rather with the development of desirable work habits that allow a deaf student to obtain employment commensurate with his abilities. Without good work attitudes one cannot be expected to hold a job for long regardless of the amount of skill he possesses.

What can we expect to come out of a vocational shop? If the teacher is dedicated and sincerely interested in the welfare of his students, we can expect to turn out students who are loyal to their employer, are willing to learn on the job, are interested in their work, can get along with fellow workers, are on time

for work and regular in attendance, and are willing to learn from those fellow workers who have knowledge and experience to impart.

Summary

The development of desirable attitudes is multifaceted. It is dependent on all who have anything to do with the students in a school for the deaf. The superintendent and all members of the staff have the responsibility to surround our students with desirable attitudes and behavior.

It is difficult to distinguish between general attitudes and vocational attitudes. They seem to be one and the same. A desirable attitude that is fostered in any one area of the school will become a desirable vocational attitude when the student enters the shop atmosphere.

The vocational atmosphere is an excellent place for the development of the many attitudes needed in our students. Through various work situations, job assignments, teamwork and independence in doing a job, we can make a tremendous contribution to the preparation of our students for entering into the world of work.

All who have anything to do with the education of deaf children have at their disposal the means for enriching programs far beyond that prescribed by current standards. The development of desirable general attitudes and specific vocational attitudes must be uppermost in our minds as we go about the task of opening the doors to success for our deaf children. The trend must be in this direction!

GUIDELINES FOR FUTURE PROGRAMS

In the last fifty years technological changes have altered the United States from an agrarian to a complicated industrialized country. If the schools for the deaf are to prepare the learner to take his place in this society, the curriculum should reflect and keep abreast of these changes.

At the present time it is evident that social and technological changes are occurring which will change vocational opportunities from those that we know today. Failure to update programs will result in the perpetuation of training for skills and occupations which are being replaced by newer methods of operation. But even up-to-date programs are not enough. Vocational educators would be wise to prepare their students for change and try to keep their curricula so broad-based that their students will easily adapt to change. This type of program should serve

as a basis for further training at post-secondary regional schools or at the National Technical Institute for the Deaf. For the terminal student this type of program will serve as a basis for further on-the-job training.

Two schools of thought are now involved in the controversy over whether an industrial arts or a vocational approach should be taken in the high schools. In the industrial arts approach the student is exposed to broad areas such as woodworking, graphic arts, and metalwork. The objective in this approach is to acquaint the student with the use of tools and with various areas of the occupational world. This plan postpones actual vocational commitment and training to post-high school years.

In the vocational program the student goes through a one or two year tryout program where he spends ten weeks in different areas acquiring a cursory knowledge of each. At about the age of 16 he goes into an intensive program in one trade which is selected on the basis of skills and interest shown during the tryout period and on the basis of aptitude testing and counseling. This program usually consists of three periods of shop and four periods of academic work such as English, mathematics, science, and social studies. There are advantages to both the industrial arts and the vocational approaches, but neither provides all the answers; and it is more likely that a combination of both systems will be most productive.

The Galaxy Approach

One such combination of vocational training is the galaxy approach being tried in the Detroit, Michigan, public schools. The basic premise for this approach is that there are only four major fields of work and that in the short time a student is in school, he can determine, by doing, which area is of most interest to him. The four major fields are: materials and processes; visual communications; energy and propulsion; and personal services.

The materials and processes group includes that number of operations which produce and make useful objects of materials. It includes skills and knowledge in producing, shaping, forming, and assembling metals, woods, plastics, fabrics, and ceramics.

The visual communications group includes drafting, graphic arts, and photographic industries, office practice, art, writing, and data processing.

The energy and propulsion group consists of the development of energy and how it is harnessed for useful work. Included are internal combustion engines, electrical power, solar energy, fuel cells, nuclear energy, and the use of this energy in its many forms and applications, such as electrical power and light systems, electronics, automobiles, aircraft, and trains.

The personal services group comprises jobs which involve a maximum contact with human beings. It includes such areas as commercial foods, health service, clothing, recreation, distribution, and public safety.

The basic idea in the galaxy approach is the belief that vocational education must consist of both general education and education for the world of work. Neither one should act to replace the other and each should complement the other.

In working out details for course work in school, the plan is structured to consist of three phases in the elementary and secondary schools.

Phase I —Preliminary exploratory or research experiences in the industrial arts, homemaking, visual arts, fine arts, music, and creative writing courses. Club activities give students an opportunity to explore dozens of vocational fields. The project method has been satisfactory at the seventh, eighth, and ninth grade levels. In this phase basic education should comprise at least 75 percent of the student's time.

Phase II —The student should further explore a reduced field of vocational possibilities in the tenth grade. He should take four 10 week intensive courses.

Phase III—The student should now be able to select a specific galaxy to study. This action should be taken with the assistance of the counselor and parents. This study should be at the eleventh and twelfth grades.

The galaxy approach makes it possible to consider the student's achievement and aspirations without forcing him to make a premature determination about specific training for a given job. A four-path plan is utilized as follows.

The science and engineering path. This path is for the higher achievers in the school. These students should be programmed for only one period of occupational training in the last two years and should receive a maximum of theory, demonstration, mathematics, and science.

The technician path. This path is for students of reasonably high academic achievement and whose interests and aptitudes point toward technical areas. These students should be enrolled for two periods a day in the eleventh and twelfth grades. They should be exposed to theory and demonstrations, and half of their time should be spent on manipulative or laboratory work. These students should have a strong mathematics and science sequence. Many of these students will continue their education in a two-year post-high school institution.

As related to the education of the deaf, these students might hope to attend the National Technical Institute for the Deaf.

The trade path. This path is for the average student as determined by achievement and aptitude. The student should be enrolled for three periods in a vocational subject in the eleventh and twelfth grades. This student will take related mathematics and science.

Most of these students should be enrolled in a cooperative program in the twelfth grade. Some will continue their education in a post-high-school institution. Some will enter an apprenticeship program or take on-the-job training.

If the student has been approved for an automotive sequence, for example, he should take a three period daily automotive course for the eleventh and twelfth years. The course should consist of 25 percent theory and 75 percent manipulative shop work.

As related to the education of the deaf, these students might hope, in the near future, to attend a regional post-high school. This program as related to the deaf should include mathematics, English, and social studies.

The occupational path. This path is for the below average student as measured by achievement tests. He should be enrolled in a four to eight period vocational subject in his eleventh and twelfth years. The course should include functional mathematics, language arts, social studies, and practical science. These courses should consist of intensive individualized instruction.

An interesting and attractive feature of the four-path method is that the same physical facilities can be used to teach all four paths.

It must be emphasized that all the paths must be open ended. The student, by achievement, can move from one path to another, and all the students can continue their education if they desire to do so.

The first two paths—**the science and engineering,** and the **technician paths,** as related to schools for the deaf, make it possible for students who have the ability to go on to either a liberal arts college or a technical college. The emphasis on these two paths is on academic work, and a limited industrial arts program is sufficient. The thought in mind here is that most of these students will go on to a post-high school program. This fits in well with most of the facilities now available to deaf students for post-secondary school education. Admittedly, certain features of all these paths lend themselves better to urban settings!

The **trade path** is the curriculum that will affect the majority of our deaf high school students. The schools cannot expect to

train for skilled crafts, but students can benefit from semi-skilled trades such as cosmetology, body and fender work, welding, poser machine sewing, baking, painting, leathercraft, ceramics, etc. The academic work in this type program should include functional mathematics and English. The hope here is that regional post-secondary schools now in the planning stage will soon provide facilities for more intensive training. These facilities can also be used for retraining deaf adults.

The occupational path should consist of a daily 4 to 8 period vocational program. Whenever possible this should include an on-the-job training program the last two years. Recent Federal legislation allows for reimbursement to local school systems for work-study programs. (See Appendix.) The employer receives some benefit in the form of a training allowance for the student he is training. That part of the time the student spends in school should be devoted to functional mathematics and English related to the on-the-job training the student is receiving. A work-study program of this type would give the schools a chance to offer the students up-to-date vocational training which the schools are not equipped to offer.

The program outlined above seems to fit residential school needs and equipment, and provides paths of instruction that fit four different groups of children. With a modest monetary outlay the schools can update their equipment to meet the needs of this program.

It must be reemphasized that a mastery of crafts of the future demands that the student be competent in basic reading, writing, and mathematics.

Opportunities for semi-skilled and unskilled workers are declining. A large percentage of the deaf are employed in semi-skilled and unskilled occupations. The area where job opportunities are expected to increase are those involving services. Some of the specific areas expected to increase are the building trades, civil service, computer operation, data processing, repair work, bookkeeping, automobile maintenance, and offset printing.

In general, vocational education programs for the deaf should contain the following:

1. Vocational education programs should include instruction in how to make out employment applications. The overwhelming majority of prospective employers are not familiar with the problems the deaf have with language. Inability to complete an application form generally causes a prospective employer to characterize the deaf applicant as undesirable and so he never gets beyond a poor first impression.

2. Vocational education programs should include orientation to the need for good grooming. Job-hunting techniques should be taught during the last year of school.

3. Vocational educational programs should be designed broadly to serve as a basis for subsequent post-high school vocational training. Students should be taught to expect changes in occupation and to be ready to seek retraining when it becomes necessary.

4. Vocational education programs should include instructional matter designed to develop broad entry skills and background upon which further specialized training may be developed. The entry skill of the terminal deaf student should be as high as possible because employers tend to stratify the deaf in their entry job.

5. Vocational education programs should include the development of favorable attitudes toward occupations. Knowledge of a vocation can help develop good attitudes. The *Chronicle of Occupational Bulletins* gives students a complete view of the duties and responsibilities of more than 300 occupations.

6. Vocational education programs should be designed to develop the need for good labor-management relationships, good personal relationships with fellow-employees, and good work habits.

7. Some deaf people have a tendency to be sensitive about the feelings of their associates and at times believe themselves abused. This tendency often becomes severe enough to create serious problems. Sometimes a deaf person takes a day off without asking the employer's permission and then shows up on the job as if nothing happened. Such behavior among the deaf happens too frequently and gives employers the impression that the deaf person has an inadequate concept of his responsibility to his employer.

8. Vocational education programs should be designed to facilitate promotion and retraining for new occupations. An increasing number of the labor force will be faced with the need to change occupations in mid-career. The ease with which workers can acquire new skills will depend in a large measure on the skills they learned in their youth. Vocational education should stress the need for a continuing program of adult education. Very few workers can look forward to a life-long career in the occupation they chose in their youth.

The Teacher in the Vocational Program

The selection of a vocational staff involves many difficulties and frequently requires the use of varied and special procedures. This process differs from the selection of academic personnel who have been trained in the skills and subject areas by colleges and universities and are available through regular selection channels.

The school personnel officer should become thoroughly familiar with the aims and objectives of vocational education and the requirements of the particular area, as well as the curriculum to be employed in the program. The applicant should meet the requirements for certification by the state and/or federal government programs. He must also have considerable trade experience, ability to work with young deaf adults, and possess the ingenuity to keep up with new developments in education and industry.

The person who meets these requirements in deaf educational settings has not always had college preparation through to the bachelors degree. In the foreseeable future many additional teachers will continue to come from the ranks of industry without full teacher certification. Administrators, therefore, must provide an extensive program of in-service education geared to the special needs of such vocational personnel new to the teaching profession. This education should stress (a) the nature of learning instructional strategies to enhance learning, (b) adolescent growth and development, (c) the place of educational media in vocational education, and (d) the nuturance of positive attitudes.

Available sources for recruiting vocational personnel are as follows:

colleges and universities
graduate schools
public and private placement agencies
state departments of education
trade and vocational schools
industries

Other sources to help the public become aware of the need for vocational personnel in schools for the deaf are as follows:

professional journals
professional meetings
trade magazines
newspaper advertisements
union organizations
adult deaf organizations

Methods of instruction and techniques in vocational education for the deaf differ somewhat from those employed with hearing students. The vocational instructor of the deaf should have specific training in teaching the deaf and its methods and mediums of communication and a sound understanding of the psychological aspects of deafness. He must also be knowledgeable concerning the impact of technological advances in industry as they pertain to the deaf student and be acutely aware of educational growth as a continual process.

There is no doubt that the vocational staff in our schools should participate in a program for in-service training both to keep up with new developments in the occupational world and to provide opportunities to enhance teaching skills. Workshops and other methods of in-service training should be provided for the instructors. Frequently the funds for these training programs may be acquired through grants from federal agencies. Numerous services are available from federal and state governments, and every avenue of assistance should be explored and used.

Meetings with representatives from industry and service occupations should be arranged on a regular basis as often as possible. The representatives should be encouraged to give recommendations for curriculum planning and development. Favorable relationships with the occupational community will provide numerous advantages for the total school program. Congenial relationships between the school and industry may encourage employers to hire members of the vocational staff during the summer months. Such experiences will enhance the instructor's practical knowledge of his trade and permit him to become acquainted with advanced methods and machines currently employed in industry.

The schools could give added emphasis and encouragement to this concept by offering reasonable financial remuneration to instructors entering this program.

The question of summer employment for instructors, per se, is often refuted. Employment on a single operation, a single machine, or in one area does not provide much new experience since the instructor may be performing operations that are similar to those of his own shop work. This plan may first appear to be of considerable value, but close scrutiny may show a lack of relevance.

A more realistic approach would have the instructor working for short periods on various operations and in different areas. A broader overview of the entire occupation or trade would be gained and thereby enhance his instructional knowledge. Observations and discussions with departmental foremen and others would provide a better concept of the entire occupational area. This overall knowledge would aid in providing worthwhile, varied experiences in his own teaching program.

Financing such a program may be arranged on a cooperative basis between the employer and the school. Other possible sources of support are state and federal agencies. An instructor need not continue this program every summer but might alternate such activity with college summer sessions, workshops, or institutes to keep abreast of new concepts and to evaluate those which he has previously experienced.

Wherever possible the school should establish a close working relationship with a department for preparing teachers of the deaf. This will not only provide the school with an increase in the number of available staff but should also help provide a constant analysis of new methods and materials needed in the school.

Teachers should be encouraged to attend and participate in programs offered by professional organizations in the field, by area vocational teachers, co-workers, and representatives from industry. Released time and reasonable financial assistance to cover expenses should be provided by the school. The benefits realized by the school program should more than justify this time and expenditure.

Team teaching is an area which should be tried out in vocational departments in schools for the deaf. This may be accomplished in several ways such as:

1. the use of two or more teachers working in one shop
2. the use of teacher assistants
3. the use of student assistants.

Other methods are available but the common denominator is that the master teacher is always in charge of the class and must maintain responsibility for the program.

Work Experience Programs

Several programs are being developed and are in use in our schools today. One of the more successful has been a cooperative work-study program. The student is employed by industry for a specific length of time—perhaps two or more weeks—and then returns to school for the same length of time. The time spent in school is generally devoted to related academic subjects. Some schools have an established program in which the student works for one-half a day and attends school for the other half. A long absence from classroom work is avoided, thereby preserving continuity of instruction. In many areas the Vocational Rehabilitation Administration assists the schools in providing work experience and/or on-the-job exploratory experience for older students.

On-the-job training is another valuable program aimed toward achieving occupational adjustment for the deaf student. The community should be canvassed for possible placements and should be made aware of the need for and value of this program. Carried on at the local level, provisions can be made available for additional training on the job to enhance the student's progress and provide meaningful work experience.

Although the Vocational Rehabilitation Administration participates in these programs, the school must cooperate and provide personnel willing to assist the student, employer, and the parents.

Sheltered workshops are necessary for deaf students on the lower achievement level. Sheltered workshops provide both terminal and transitional employment. Facilities should be adaptable for use by the slow learner, the multiple handicapped, and for others whose handicaps are so severe that competition in the usual fields of employment is precluded.

Adult Education for the Deaf

Although adult education has been in existence for over 100 years, only recently have such facilities been made available to the deaf. In February, 1963, an adult education program entitled, "A Pilot Program of Classes for the Adult Deaf," was developed at San Fernando Valley State College, Northridge, California. The success of this program has led to the development of many adult education programs throughout the country. An important factor in the success of this program can be attributed to the conscientious work done by the planning committee which was composed of hearing and deaf leaders in the community.

Suggestions are given here to assist in the further development of adult education programs for the deaf.

1. Include participating members from the community, both hearing and deaf, in all planning and evaluation sessions.
2. Survey the community to determine the educational needs of the deaf adult.
3. Employ all methods of communication adaptable to the needs of the adult deaf to achieve the optimum in instruction.
4. Provide a broad selection of courses such as: academic, self-improvement, vocational, avocational, and technical.
5. Encourage the adults to participate more fully in the classroom activities.
6. Utilize deaf professional leaders as teachers in the classroom.
7. Utilize the full spectrum of educational media as a vital part of the adult educational program.
8. Provide financial support for an adult program from such sources as public school systems, federal programs, associations of the deaf, and student tuition.

The need for the establishing of adult education for the deaf is highlighted by the fact that many students leaving schools for the deaf, range in educational achievement between eighth and ninth grade or even lower. This level restricts vocational choice and limits opportunities for vocational achievement. Classes in English, consumer economics, communication, and mathematics for the adult deaf will aid in overcoming this deficiency. The deaf adult must continually improve his vocational and academic

skill to keep up with the demands required of him by industry.

A significant trend in American society is toward extending education of the adult upward, and the deaf adult should be provided with the opportunity to keep pace.

Utilization of Educational Media

Recent developments in educational curriculum have emphasized the need for revision of instructional programs. The utilization of new educational media can greatly assist the vocational instructor in keeping pace with developments in education. The exploration of new teaching tools and techniques requires a systematic evaluation of all available resources.

Educational media in the form of charts, bulletin boards, chalk boards, models, and others have been in use for some time. Development of new media has been increasing rapidly and extensively and includes the overhead projector for use with transparencies; the eight millimeter cartridge projector for loops; the sixteen millimeter projector for use with captioned films and the thirty-five millimeter projector for use with filmstrips with and without recordings, to cite but a few.

It is possible with the new media to provide repeated meaningful stimuli on similar topics without boredom. They accommodate the necessity for repetition in the learning process without injecting tedium.

Children remember significantly more of what they see than what they hear. Since deaf children learn primarily through vision, educational media help provide vehicles to advance school achievement, thereby enabling the deaf student to compete more successfully for employment.

The development of instructional media is often a difficult undertaking, frequently requiring the team approach. The team, as a minimum, consists of a teacher, curriculum specialist, and an educational media specialist. In many schools it is generally necessary for the classroom instructor to produce his own media. In doing so, it is imperative that the concepts and objectives of the area of instruction be kept in focus. But this is, of course, a principle to be practiced regardless of the manner in which media are prepared and used—either by the individual teacher or the team.

The overhead projector is particularly adaptable to use in a vocational program. A number of benefits resulting from the use of the overhead projector are as follows:

1. Continual face-to-face contact between teacher and pupil is assured.
2. Teacher-made projectoral can be used.
3. Students may participate directly in making the materials and using the projector.

4. Both group teaching and individual instruction are possible.
5. Shop language can be presented using new approaches.
6. Vivid colors, overlays, blocked out sections of transparencies, and other techniques can be used to direct the attention of the student.
7. Rapid confirmation or clarification by the student is made possible.

The possibilities for classroom use of the eight millimeter cartridge projector are numerous. Field trips, class projects, operational steps, exhibits, and other experiences may be recorded on an eight millimeter camera and then inserted into the plastic cartridge to be used to reinforce learning. This method is especially useful when a sequencial unit is presented. The film may be stopped at any point and permits opportunity for as much repetition as needed.

The utilization of the sixteen millimeter film in the classroom for the deaf has become more meaningful with the addition of captions. The number of captioned films available is increasing annually. The Perceptoscope also offers many new uses for sixteen millimeter film.

Filmstrips continue to be a very fruitful source of visual material for use in schools for the deaf. Many filmstrips are prepared with captions and guides for application to vocational education as well as other areas of the curriculum.

Although the use of the thirty-five millimeter slide as a teaching tool is not new, it continues to be an effective method of presenting information. The instructor can produce slides which will be up-to-date and designed for thc benefit of his particular students. The equipment required to produce slides is usually available (or should be) and the total cost of production is low. The instructor can easily determine the sequence and number of slides in the presentation.

Written programmed instruction is a technique which can be used in presenting technical and related information. A program is a series of structured items, questions, or statements which requires the student to make a response. Immediately after the response he is informed of the accuracy of his response and then progresses by steps, always beginning from what he knows. In programming the learner is the teacher. Consequently, individual interest and needs can be pursued independently.

There is an apparent need for more teacher workshops devoted to specific plans for developing and useing educational media with deaf children. The use of educational media enables the teacher to reinforce and extend student learning. To this end Captioned Films has committed its resources through the distribution of appropriate media and through centers which help put teachers

in touch with the most recent developments in the field of educational media. The vocational teacher who is innovative and aware is mindful of the effects these developments have on his or her instruction.

Related Supportive Agencies

The success of a vocational program lies in intelligent use of all avenues open to exploration. Enlisting agencies outside of the school such as community services, state and federal agencies, religious organizations, unions, industrial associations, and organizations of the deaf, can broaden the scope of assistance. Contacts with these agencies can enhance the public's knowledge of the deaf person and his problems, which is often *sadly lacking*. The effort to provide a favorable atmosphere should result in the development of empathy and understanding, creating a more beneficial acceptance of the deaf person as a responsible and productive member of the community.

Expansion of the program through the medium of community committees has also proved to be successful. These committees, comprised of a group of representatives from industries, business, construction companies, service occupations, labor and craft unions, state and federal services, and others can work cooperatively with the schools by pooling their knowledge and experience to help establish guidelines for programs to meet their requirements for employment. A close association between these representatives and the school is conducive to opening many areas of employment. The committee members gain a working relationship and more knowledge of vocational education for the deaf and of the potential of the deaf worker, which they can impart to their own personnel. This understanding can ease the difficulties which might arise between workers and the prospective employee during pre-employment.

A comprehensive guidance program in schools for the deaf helps determine the success of occupational adjustment of the deaf student. Such a program should be centered in the school, or nearby, and include counselors, placement personnel, psychologists, related subject-matter teachers, and on-the-job supervisors along with shop teachers and administrators.

Obviously these personnel, while having adequate preparation in their own areas, should also develop an extensive background in knowledge and understanding of the problems of the deaf. They should be capable of helping students avoid the acceptance of a limited goal in life because of their handicap or the notion that learning terminates at the close of the school years. The student must be helped to see that stagnancy can be avoided by a continuous endeavor to acquire more knowledge and skills, and only then can he expect to rise vertically in his employment.

Job placement service is fundamentally concerned with aiding the student in securing a job. Caution is the watchdog here. Not just ANY job will prove to be satisfactory. Thorough analysis of the job is necessary to avoid terminal placement. Rapid disposal of a case may give satisfaction to the placement officer; however, an unsuitable placement most often is detrimental to the student's welfare and his future occupational endeavors.

SUMMARY

This report has set forth some trends and guidelines of which vocational educators of the deaf should be aware in order to prepare their students better to meet the technological changes and competition of the occupational world.

Employment opportunities for unskilled, semi-skilled or blue-collar workers are rapidly declining, and jobs in the technician and service areas are increasing.

The obvious need is to establish advanced vocational programs to equip deaf youth for the technician areas and organize new programs in the service occupations which provide more opportunities.

Occupational requirements in many areas which formerly were met by adequate vocational instruction on the secondary school level now require post-secondary school training. The establishment of the National Technical Institute for the Deaf and projected regional post-secondary schools promise great help to meet this need.

Herein are suggested guidelines for establishing prevocational and vocational programs in schools for the deaf. Attempts were made to adequately gear these guidelines to meet the trends and needs in our changing occupational world. The notion of integrating a strong academic program and a broad rather than specific area of instruction in vocational subjects was evaluated and was found to provide the best opportunity for achieving vocational objectives.

Related agencies such as guidance, counseling, use of various agencies outside of the school and community committees are all necessary to achieve these objectives. The utilization of educational media and the adaptation of such material for use in the shop and classrooms was emphasized.

This report closes on a hopeful note from the "Babbidge Report."

> . . . There is an urgent need to raise the level of hopes and expectations in the education of the deaf. Deaf individuals and their teachers should not accept a severely limited goal in life for the deaf. A look at the history of the field makes it clear that there have been important advances in the past. There is no reason to conclude that the future is without opportunity for further similar advances.*

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*Education of the Deaf. A report to the Secretary of Health, Education and Welfare by his Advisory Committee on the Education of the Deaf. Dr. Homer D. Babbidge, chairman. Washington, United States Office of Education, 1964.

SELECTED BIBLIOGRAPHY

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BIBLIOGRAPHY

Babbidge, Homer D., Jr., (Chairman), *Education of the Deaf: A Report to the Secretary of Health, Education, and Welfare by his Advisory Committee on the Education of the Deaf.* U.S. Government Printing Office, Washington, D.C., 1965.

Berg, Frederick S. "A Professional Challenge," *American Annals of the Deaf,* Vol. III, No. 4, September, 1966.

Craig, William N., and Silver, Norman H. "Examination of Selected Employment Problems of the Deaf," *American Annals of the Deaf,* Vol. III, No. 4, September, 1966.

Crammate, Alan B., Williams, Boyce R., and Pfeifer, Edward J., (Editors), *Guidelines for Establishment of Rehabilitation Facilities for the Deaf.* U.S. Department of Health, Education, and Welfare. Vocational Rehabilitation Administration. U.S. Government Printing Office, Washington, D. C., 1965.

Doctor, Powrie V. "Research Needs in the Vocational Rehabilitation of the Deaf." *American Annals of the Deaf,* Vol. 105, No. 4, September, 1960.

Fishman, Jacob R., (Director), *Training for New Careers.* U.S. Government Printing Office, Washington, D. C., 1965.

Hicks, Doin. "Vocational Education and Occupational Status of the Young Adult Deaf." A paper presented to the Institute for Advanced Study, DePaul University, July 24, 1967.

Jochem, Charles M. "The Recruitment and Development of Vocational Staff." New Jersey School for the Deaf.

Kemp, Barbara H. "The Youth We Haven't Served." U.S. Department of Health, Education, and Welfare. U.S. Government Printing Office, Washington, D.C., 1966.

Kronenberg, Henry H. and Blake, Gary D. *Young Deaf Adults, an Occupational Survey.* Vocational Rehabilitation Administration, Department of Health, Education, and Welfare, Washington, D.C., 1966.

Rose, Edward F. "Civil Service." Address at DePaul University, July 10, 1967.

National Association of the Deaf. *West Coast Regional Institute on Personal, Social, and Vocational Adjustment to Total Deafness.* Office of Vocational Rehabilitation. Department of Health, Education, and Welfare, Washington, D.C., 1959.

Norton, Ken, (Chairman), *The Deaf at Work.* California School for the Deaf, Berkeley, Calif., 1967.

Turnquist, Carl H. "Galaxy Approach to Education for the World of Work." *School Shop.* Vol. XXV, No. 3, November, 1965.

U.S. Department of Labor. *Technology and Manpower in the Health Service Industry.* U.S. Government Printing Office, Washington, D.C., 1967.

U.S. Office of Education. *Organizing a Food Trade Program.* Department of Health, Education, and Welfare. U.S. Government Printing Office, Washington, D. C., 1967.

U.S. Department of Health, Education, and Welfare. *Research on Behavioral Aspects of Deafness.* Proceedings of a National Research Conference on Behavioral Aspects of Deafness. New Orleans, La., 1965.

U.S. Department of Health, Education, and Welfare. *A Study of Curriculum Development in the High School Cooperative Program.* U.S. Government Printing Office, Washington, D.C., June, 1960.

Vernon, McKay, and Fishler, Thomas. "Vocational Needs in Educational Programs for Deaf Youth." *American Annals of the Deaf,* Vol. III, March, 1966.

Williams, Boyce. "New Trends in Vocational and Technical Training for Deaf Youth." Address at DePaul University, July 10, 1967.

Williams, Boyce R. "Basic Needs of Deaf People." *The Maryland Bulletin.* Vol. LXXXI, No. 4.

Williams, Boyce R. "Essential Characteristics (Qualifications) of a Rehabilitable Deaf or Hard of Hearing Individual." A paper read to the Conference on Integration of Education and Rehabilitation of the Deaf and the Blind, held at Atlanta, Ga., Oct. 16 - 17, 1946.

Willis, Benjamin C., (Chairman), *Education for a Changing World of Work.* Department of Health, Education and Welfare. U.S. Government Printing Office, Washington, D. C., 1963.

Woerdehoff, Frank J., Nelson, Norbert J., and Coster, John K. *Vocational Education in Public Schools as Related to Social, Economic, and Technical Trends. Part I. The Analysis of Trends and Concepts.* Purdue University, Lafayette, Indiana, May, 1960.

Jones, Ray L., (Project Director), *A Pilot Program of Classes for the Adult Deaf.* Leadership Training Program in the Area of the Deaf. San Fernando Valley State College, Northridge, California, 1964.

Boatner, E.B.; Stuckless, E.R. and Moores, D.F., *Occupational Status of the Young Adult Deaf of New England and the Need and Demand for a Regional Technical-Vocational Training Center,* VRA, Department of Health, Education, and Welfare, Washington, D.C., 1964.

Feiner, John L., "The Editor's Stand," *Industrial Arts and Vocational Education,* Volume 56, No. 5, May, 1967.

Stahler, Abraham, "Manpower," Paper submitted at Institute for Advanced Study, DePaul University, Chicago, Illinois, July, 1967.

Wright, George N., *The Education and Vocational Rehabilitation of Young Deaf Adults.* V.R.A., United States Department of Health, Education, and Welfare, Washington, D.C., 1964.

Hester, Marshall S., (Director) *Proceedings of a National Workshop on Improved Vocational Opportunities for the Deaf.* Knoxville, Tennessee, United States Department of Health, Education, and Welfare, Washington, D.C., June, 1965.

West Coast Regional Institute on Personal, Social and Vocational Adjustment to Total Deafness. California School for the Deaf, Berkeley, California, February, 1959.

Model Secondary School for the Deaf. Hearings before the Ad Hoc Subcommittee on the Handicapped of the Committee on Education and Labor, House of Representatives, 89th Congress, 2nd Session on H.R. 17190. Washington, D.C., September 13th and 14th, 1966.

"Institute in Personal, Social and Vocational Adjustment to Total Deafness." *American Annals of the Deaf.* Volume 103. New York School for the Deaf, White Plains, New York, October, 1957.

National Committee on Employment of Youth. *Getting Hired, Getting Trained.* United States Department of Health, Education, and Welfare. United States Government Printing Office, Washington, D.C.

APPENDIX

ASSISTANCE PROGRAMS FOR VOCATIONAL EDUCATION ADMINISTERED BY THE U.S. OFFICE OF EDUCATION FOR 1967*

GROUP I—FOR CONSTRUCTION

Type of Assistance: Community colleges, technical institutes.
Authorization: Higher Education Facilities Act—Title I.
Purpose: Construct or improve academic facilities.
Who May Apply: Public community colleges and technical institutes.
Where to Apply: State Commissions.

Type of Assistance: Vocational facilities.
Authorization: Appalachian Regional Development Act of 1965.
Purpose: Construct vocational education facilities in the Appalachian region.
Who May Apply: State education agencies in Appalachian region.
Where to Apply: Office of Education's Division of Vocational and Technical Education.

Type of Assistance: Area vocational schools.
Authorization: Vocational Education Act of 1963.
Purpose: Construct or improve area vocational education school facilities.
Who May Apply: Public secondary and post-secondary schools providing education in 5 or more fields.
Where to Apply: State boards of vocational education (information from Office of Education's Division of Vocational-Technical Education).

GROUP II—FOR PROGRAMS, INSTRUCTION, AND ADMINISTRATION

Type of Assistance: Programs for the disadvantaged.
Authorization: Elementary and Secondary Education Act—Title I.
Purpose: Support educational programs in areas having high concentrations of low-income families.
Who May Apply: State education agencies.
Where to Apply: Office of Education's Division of Compensatory Education.

Type of Assistance: School library resources and instructional materials.
Authorization: Elementary and Secondary Education Act—Title II.
Purpose: Support provision of school library resources, textbooks, and other instructional materials.

Who May Apply: Local education agencies.
Where to Apply: Office of Education's Division of Plans and Supplementary Centers.

Type of Assistance: Vocational programs.
Authorization: Smith-Hughes, George Barden, Vocational Education acts.
Purpose: Maintain, extend, and improve vocational education programs; develop programs in new occupations.
Who May Apply: Public Schools.
Where to Apply: State boards of vocational education (information from Office of Education's Division of Vocational-Technical Education).

Type of Assistance: Guidance, counseling, and testing in public schools.
Authorization: National Defense Education Act—Title V-A.
Purpose: Assist in establishing and maintaining guidance, counseling, and testing programs.
Who May Apply: Public elementary and secondary schools, junior colleges, technical institutes.
Where to Apply: State education agencies.

Type of Assistance: Testing in nonpublic schools.
Authorization: National Defense Education Act—Title V-A.
Purpose: Provide for aptitude-achievement testing of private school students.
Who May Apply: Testing agencies.
Where to Apply: State education agency or Office of Education's Division of Plans and Supplementary Centers.

Type of Assistance: Teacher institutes.
Authorization: National Defense Education Act—Title XI.
Purpose: Improve qualifications of elementary and secondary teachers and related specialists.
Who May Apply: Colleges and universities.
Where to Apply: Office of Education's Division of Educational Personnel Training.

Type of Assistance: Teacher training (handicapped).
Authorization: Mental Retardation Facilities . . . Act, and others.
Purpose: Prepare teachers and others who work in education of handicapped.
Who May Apply: State education agencies, colleges, and universities.
Where to Apply: Office of Education's Bureau of Elementary and Secondary Education.

Type of Assistance: Counselor institutes.
Authorization: National Defense Education Act—Title V-B.
Purpose: Improve qualifications of guidance workers in schools and colleges.
Who May Apply: Public and private nonprofit colleges and universities.
Where to Apply: Office of Education's Division of Educational Personnel Training.

Type of Assistance: Teacher training (vocational).
Authorization: Smith-Hughes, George Barden, Vocational Education acts.
Purpose: Improve qualifications of teachers, supervisors, and directors of vocational education programs.
Who May Apply: Local school districts.
Where to Apply: State boards of vocational education (information from Office of Education's Division of Vocational-Technical Education).

Type of Assistance: Adult basic education.
Authorization: Adult Education Act of 1966.
Purpose: Provide literacy programs for adults.
Who May Apply: State education agencies.
Where to Apply: Office of Education's Division of Adult Education Programs.

Type of Assistance: Occupational training and retraining.
Authorization: Manpower Development and Training Act of 1962.
Purpose: Provide training programs to equip persons for work in needed employment fields.
Who May Apply: Local school authorities (public, private nonprofit).
Where to Apply: State vocational education agency (information from Office of Education's Division of Vocational and Technical Education).

Type of Assistance: Vocational work-study.
Authorization: Vocational Education Act of 1963—Section 13.
Purpose: Provide part-time employment opportunities for vocational education students.
Who May Apply: High schools, colleges, vocational or technical schools.
Where to Apply: State education agencies (information from Office of Education's Division of Vocational and Technical Education).

GROUP III—FOR TEACHER TRAINING AND STUDENT ASSISTANCE

Type of Assistance: Handicapped teacher scholarships.
Authorization: Mental Retardation Facilities . . . Act, and others.
Purpose: Improve training of persons responsible for the education of the handicapped.
Who May Apply: Persons employed or preparing for employment as teachers, supervisors, etc., of handicapped.
Where to Apply: Participating institutions (information from Office of Education's Bureau of Elementary and Secondary Education).

Type of Assistance: Experienced teacher fellowships.
Authorization: Higher Education Act of 1965—Title V-C.
Purpose: Improve the quality of education of elementary and secondary teachers and related personnel.
Who May Apply: Experienced teachers planning to continue in elementary and secondary teaching careers.
Where to Apply: Local schools boards or participating institutions (information from Office of Education's Division of Educational Personnel Training).

Type of Assistance: Prospective teacher fellowships.
Authorization: Higher Education Act of 1965—Title V-C.
Purpose: Improve the quality of education of persons planning careers in elementary and secondary education.
Who May Apply: Prospective teachers and school personnel in related professional areas.
Where to Apply: Participating institutions (information from Office of Education's Division of Graduate Programs).

Type of Assistance: Counseling and guidance training grants (institutes).
Authorization: National Defense Education Act—Title V-A.
Purpose: Improve counseling of students in schools and colleges.
Who May Apply: Persons engaged in or preparing to engage in counseling and guidance of students.
Where to Apply: Participating institutions (information from Office of Education's Division of Educational Personnel Training).

Type of Assistance: Captioned films—training grants.
Authorization: Captioned Films for the Deaf.
Purpose: Improve quality of instruction available to deaf persons.
Who May Apply: Persons who will use captioned film equipment.
Where to Apply: Office of Education's Division of Research Training and Dissemination.

Type of Assistance: Educational opportunity grants.
Authorization: Higher Education Act of 1965—Title IV-A.
Purpose: Assist qualified high school graduates to go to college.
Who May Apply: Promising high school graduates and college undergraduates of exceptional financial need.
Where to Apply: Participating institutions (information from Office of Education's Division of Student Financial Aid).

Type of Assistance: Vocational work-study.
Authorization: Vocational Education Act of 1963—Section 13.
Purpose: Provide part-time employment for young people to help them begin or continue vocational training.
Who May Apply: Vocational education students.
Where to Apply: Participating institutions (information from State education agencies or Office of Education's Division of Vocational-Technical Education).

Type of Assistance: Occupational training and retraining.
Authorization: Manpower Development and Training Act.
Purpose: Train skilled workers in all sections of the Nation.
Who May Apply: Persons referred by State employment services.
Where to Apply: Participating institutions (information from Office of Education's Division of Manpower Development and Training).

Type of Assistance: Vocational teacher training grants.
Authorization: Smith-Hughes, George Barden, Vocational Education acts.
Purpose: Improve qualifications of vocational education teachers.
Who May Apply: Teachers of vocational education subjects.
Where to Apply: Participating institutions (information from State boards of vocational education or Office of Education's Division of Vocational-Technical Education).

Type of Assistance: Adult basic education teacher training grants.
Authorization: Adult Education Act of 1966.
Purpose: Improve qualifications of teachers of adult basic education courses.
Who May Apply: Teachers and teacher trainers of adult basic education courses.
Where to Apply: Participating institutions (information, Office of Education's Division of Adult Education Programs).

GROUP IV—FOR RESEARCH

Type of Assistance: Educational media research.
Authorization: National Defense Education Act—Title VII.
Purpose: Support research on educational uses of television, radio, motion pictures, other media.

Who May Apply: Grants: public or nonprofit institutions, individuals; contracts: public agencies, individuals.
Where to Apply: Office of Education's Division of Research Training and Dissemination.

Type of Assistance: Handicapped research and demonstration.
Authorization: Mental Retardation Facilities . . . Act, and others.
Purpose: Promote research and demonstration on education of the handicapped.
Who May Apply: State education agencies, local school districts, nonprofit private organizations, public groups.
Where to Apply: Office of Education's Division of Elementary and Secondary Research.

Type of Assistance: Vocational Research.
Authorization: Vocational Education Act of 1963—Section 4(c).
Purpose: Develop research and training, experimental and pilot programs for special vocational needs.
Who May Apply: State education agencies, colleges and universities, local education agencies.
Where to Apply: Office of Education's Division of Adult and Vocational Research.

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*excerpted from: Federal Money For Education: Program Administered by the U.S. Office of Education, Fiscal Year 1967.